CLAIMS

What is claimed is:

1. A speaker for reproducing ultrahigh frequencies

comprising:

a schematically disk-shaped piezoelectric ceramic vibrator in which a piezoelectric ceramic and a metal substrate are bonded;

a dome-shaped diaphragm attached to said piezoelectric ceramic vibrator; and

a panel which fixes an outer peripheral part of said piezoelectric ceramic vibrator and has an opening part in a front face of said dome-shaped diaphragm, wherein

a diameter of a dome part of said dome-shaped diaphragm is made to be 0.5 to 0.8 times the effective movable diameter of said piezoelectric ceramic vibrator.

2. A speaker for reproducing ultrahigh frequencies in accordance with claim 1, wherein the diameter of said piezoelectric ceramic is almost identical to that of said dome part.

3. A speaker for reproducing ultrahigh

frequencies in accordance with claim 1, wherein the diameter of said opening part is almost identical to that of said dome part.

4. A speaker for reproducing ultrahigh frequencies in accordance with claim 1, wherein a voltage boosting circuit is connected to said piezoelectric ceramic vibrator.

5. A speaker for reproducing ultrahigh frequencies in accordance with claim 1, wherein a primary resonance frequency at high frequencies of said dome-shaped diaphragm is made to be higher than a secondary resonance frequency at high frequencies of said piezoelectric ceramic vibrator.

INTERNATIONAL APPLICATION TRANSLATION CERTIFICATE

I, the below named verifier, hereby certify that:

(1) My name and post office address are as stated below;

(2) I am knowledgeable in the English language and in the language in which the below identified International Application was filed; and that

(3) I believe the attached is a full, true and faithful translation into the English language of the

[X] Amendment under PCT Article 34(2)(b)

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of International Application PCT/JP03/00752, filed 27 January 2003 under the Patent Cooperation Treaty.

I declare further that all statements made herein on personal knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed this 17th day of June, 2004.

Full name of verifier Satoru OHIRA

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手　続　補　正　書

（法第１１条の規定による補正）

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４．補正の対象

請求の範囲

５．．補正の内容

（１）請求の範囲第３０頁の請求項１、３及び４を削除する。

（２）請求の範囲第３０頁の請求項２及び５を補正する。

６．添付書類の目録

（１）請求の範囲第３０－３１頁

請求の範囲

1．（削除）

2．（補正後）　圧電セラミックと金属基板を接合した略円盤状の圧電セラミック振動子と、前記圧電セラミック振動子に取り付けられたドーム型振動板と、前記圧電セラミック振動子の外周部を固定し且つ前記ドーム型振動板の前面に開口部を有するパネルと、を有し、

前記ドーム型振動板のドーム部の直径を前記圧電セラミック振動子の実効可動直径の0．5～0．8倍とし、

前記圧電セラミックの直径が、前記ドーム部の直径とほぼ同一であることを特徴とする超高域再生用スピーカ。

3．（削除）

4．（削除）

5．（補正後）　圧電セラミックと金属基板を接合した略円盤状の圧電セラミック振動子と、前記圧電セラミック振動子に取り付けられたドーム型振動板と、前記圧電セラミック振動子の外周部を固定し且つ前記ドーム型振動板の前面に開口部を有するパネルと、を有し、

前記ドーム型振動板のドーム部の直径を前記圧電セラ

ミック振動子の実効可動直径の０．５～０．８倍とし、

前記ドーム型振動板の第１次高域共振周波数は前記圧電セラミック振動子の第２次高域共振周波数よりも高くしたことを特徴とする超高域再生用スピーカ。